

Quality Assessment Program



Description

The Quality Assessment program (QAP), administered by the Department of Energy (DOE) Environmental Measurements Laboratory (EML) is an external, independent performance evaluation program designed to test the quality of environmental radiological measurements reported by DOE contractor and subcontractor laboratories. The program provides DOE with a complex wide comparability of environmental radiological analyses through the distribution of spiked samples comprised of natural and synthetic matrices, such as soil, vegetation, water and air particulates collected on air filters. The selection of radioactive isotopes currently provided reflects the changing needs of the DOE complex. EML performance testing materials are distributed semi-annually to participating laboratories. QAP compares reported results with historically derived control limits, which reflect the variations in the performance of the laboratories as a function of matrix, nuclide, and time.

Status

The QAP has distributed over 50 semi-annual rounds of performance testing materials. The QAP database of the results submitted by the participating laboratories is considered one of the most comprehensive I databases for environmental-level radiological determinations in existence. The QAP was integrated into the Radiological Traceability Program via Memorandum of Understanding between EML, NIST and the National Analytical Management Program in 1999.

Benefit to EM

Laboratories performing environmental radiological analyses for EM are required by Secretarial memorandum to participate in QAP. The QAP provides an important component in an overall Measurement Quality Assurance (MQA) system by measuring the ability of participating laboratories to accurately and precisely identify and quantify radionuclides of interest. Participation in QAP promotes the acceptance of analytical data by regulators and other stakeholders.

By successfully participating in the NAMP-RTP EML established itself as a Reference Laboratory for DOE-EM, as defined in ANSI N42.23. Being traceable to NIST for the preparation and the characterization of PE materials prepared at EML, such as those for QAP, provides assurance that the evaluations are based on technically defensible and comparable data. In addition, EML is now in a position to provide a NIST traceability link for monitoring laboratories requiring site-specific PE materials.

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